

Application No. 10/707,999
Docket No. A4-1719
Amendment dated April 11, 2005
Reply to Office Action of March 9, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (currently amended): A product consisting essentially of polycrystalline chips and optionally a matrix in which the chips are dispersed, the polycrystalline chips having nanocrystalline microstructures and being formed of at least one material chosen from the group consisting of metals, metal alloys, intermetallic materials, and ceramic materials, the matrix if present being formed of at least one material chosen from the group consisting of metal, metal alloy, intermetallic materials, polymeric materials, and ceramic materials. ~~containing polycrystalline chips that contain nano-crystals and are in the form of particulates, ribbons, wires, filaments and/or platelets, at least a portion of the product having a nanocrystalline microstructure as a result of containing the chips.~~

Claim 2 (currently amended): A product according to claim 1, wherein ~~the at least one material of which the chips are formed is~~ ~~the chips are formed of a material~~ chosen from the group consisting of metal, metal alloy

Application No. 10/707,999
Docket No. A4-1719
Amendment dated April 11, 2005
Reply to Office Action of March 9, 2005

and intermetallic materials.

Claim 3 (currently amended): A product according to claim 1, wherein the at least one material of which the chips are formed is a ceramic material. ~~the chips are formed of an inorganic material chosen from the group consisting of ceramic materials.~~

Claim 4 (original): A product according to claim 1, wherein the chips have grains with a nominal size of less than 500 nm.

Claim 5 (original): A product according to claim 1, wherein the chips have grains with a nominal size of less than 100 nm.

Claim 6 (original): A product according to claim 1, wherein the product consists essentially of the chips held together by consolidation so that the product consists essentially of a nanocrystalline microstructure.

Claim 7 (currently amended): A product according to claim 1, wherein the product contains the chips dispersed in the matrix. ~~a matrix material.~~

Application No. 10/707,999
Docket No. A4-1719
Amendment dated April 11, 2005
Reply to Office Action of March 9, 2005

Claim 8 (currently amended): A product according to claim 7,
wherein the chips are present in the matrix ~~-material-~~ in the form of ribbons,
wires or filaments.

Claim 9 (original): A product according to claim 7, wherein the chips
are in the form of platelets.

Claim 10 (currently amended): A product according to claim 7,
wherein the at least one material of the matrix ~~-material-~~ is chosen from the
group consisting of metal, metal alloy and intermetallic materials.

Claim 11 (currently amended): A product according to claim 7,
wherein the at least one material of the matrix ~~-material-~~ is a polymeric material.

Claim 12 (currently amended): A product according to claim 7,
wherein the at least one material of the matrix is a ceramic material. ~~the matrix~~
~~material is an inorganic material chosen from the group consisting of ceramic~~
~~materials.~~

Claim 13 (currently amended): A product consisting essentially of
polycrystalline chips held together by consolidation, the chips consisting entirely

Application No. 10/707,999
Docket No. A4-1719
Amendment dated April 11, 2005
Reply to Office Action of March 9, 2005

of grains with a nominal size of less than 500 nm so that the product consists essentially of a nanocrystalline microstructure, the chips being formed of at least one material chosen from the group consisting of metals, metal alloys, intermetallic materials, and ceramic materials.

Claim 14 (original): A product according to claim 13, wherein the chips are formed of a material chosen from the group consisting of metal, metal alloy and intermetallic materials.

Claim 15 (original): A product according to claim 13, wherein the chips are formed of an inorganic material chosen from the group consisting of ceramic materials.

Claim 16 (original): A product according to claim 13, wherein the grains of the chips have a nominal size of less than 300 nm.

Claim 17 (currently amended): A product comprising polycrystalline chips dispersed in a matrix, -matrix material-, the chips being in the form of particulates, ribbons, wires, filaments and/or platelets that consist entirely of grains with a nominal size of less than 500 nm, the chips being formed of at least one material chosen from the group consisting of metals, metal alloys,

Application No. 10/707,999
Docket No. A4-1719
Amendment dated April 11, 2005
Reply to Office Action of March 9, 2005

intermetallic materials, and ceramic materials, the matrix being formed of at least one material chosen from the group consisting of metal, metal alloy, intermetallic materials, polymeric materials, and ceramic materials.

Claim 18 (original): A product according to claim 17, wherein the chips are formed of a material chosen from the group consisting of metal, metal alloy and intermetallic materials.

Claim 19 (original): A product according to claim 17, wherein the chips are formed of an inorganic material chosen from the group consisting of ceramic materials.

Claim 20 (original): A product according to claim 17, wherein the grains of the chips have a nominal size of less than 300 nm.

Claim 21 (original): A product according to claim 17, wherein the chips are in the form of particles or platelets.

Claim 22 (original): A product according to claim 17, wherein the chips are in the form of ribbons, wires or filaments.

Application No. 10/707,999
Docket No. A4-1719
Amendment dated April 11, 2005
Reply to Office Action of March 9, 2005

Claim 23 (currently amended): A product according to claim 17,
wherein the matrix is formed of a material ~~material is~~ chosen from the group
consisting of metal, metal alloy and intermetallic materials.

Claim 24 (currently amended): A product according to claim 17,
wherein the matrix ~~material~~ is formed of a polymeric material.

Claim 25 (currently amended): A product according to claim 17,
wherein the matrix ~~material~~ is formed of an inorganic material chosen from the
group consisting of ceramic materials.